

ABSTRACT OF THE DISCLOSURE

An arrangement and a method for controlling a combustion engine, e.g. of the type called HCCI engine. A control unit for controlling the self-ignition of the fuel mixture towards an optimum crankshaft angle (cad_{iopt}) within a load range (L_{tot}). The load range (L_{tot}) can be divided into at least two subranges (L_I , L_{II}) and the control unit is adapted to controlling the self-ignition of the fuel mixture towards an optimum crankshaft angle (cad_{iopt}) within a first subrange (L_I) by means of a strategy (I) which entails a variable amount of hot exhaust gases being supplied to or retained in the combustion chamber, and within a second subrange (L_{II}) by means of another strategy (II) which entails the effective compression ratio (c) in the cylinder being varied.